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REGIONAL POWER SUPPLIER PLUGGING INTO WIND ENERGY

By Michael Jamison

KALISPELL - The region's largest wholesaler of electrical power is plugging into a new wind-energy project, part of a multi-year plan to substantially increase wind's contribution to the grid.

“Public demand in the Northwest for sources of clean, renewable power has never been stronger,” said Steve Wright, top boss at the Bonneville Power Administration. Wright called the new 50-megawatts of wind power “a sound business decision; it's cost-competitive, fits with the agency's goals of serving the region's needs, and helps BPA maintain its near-zero carbon footprint.”

BPA is the quasi-governmental agency that markets power produced at 31 federal dams in the Columbia River Basin, some 40 percent of all the electricity used in the Pacific Northwest. Those hydropower plants include headwater reservoirs such as Montana's Hungry Horse and Libby dams, and provide at-cost electricity to 140 utility companies in Montana, Idaho, Washington and Oregon.

The latest wind project, in fact, is located in Wasco, Ore., on a field owned by PPM Energy. Called Klondike Wind Power III, the project adds a full 25 percent to BPA's existing renewable wind supply, taking the agency's capacity from 207 megawatts to 257 megawatts.

That remains a small fraction of BPA's total energy output, but a 20-year regional plan calls for adding 5,000 or more megawatts of wind in coming years. That, analysts say, would make wind a major player in meeting future electricity demand throughout the Pacific Northwest.

The long-term plan, called the Northwest Wind Integration Action Plan, concludes that “the region's existing power system can most likely accommodate the 6,000 megawatts of wind energy anticipated by 2024 - or perhaps much sooner, given the current pace of development.”

That's power enough for five Seattles, the equivalent of two big nuclear plants.

The push for wind is driven, Wright said, by both the market and the regulators.

Customers, he said, are increasingly concerned about greenhouse gas emissions, and are demanding renewable options from their power providers. And regulators - that is to say, state lawmakers - are making rules that both constrain polluting power sources and encourage clean and renewable technologies.

Already, he said, Montana, Washington and Oregon have enacted legislation requiring utilities to phase in additional clean energy sources over time.

Had BPA declined PPM's wind energy and purchased the 50 megawatts from a fossil-fueled power source - even an efficient source such as a natural gas-fired combined-cycle generator - carbon dioxide emissions would have ranged from 27,000 tons to 72,000 tons per year. With wind, Wright said, emissions are zero.

(By comparison, a 250-megawatt coal-fired plant proposed for construction near Great Falls at a cost of about $700 million will pump out an estimated 2.8 million tons of greenhouse gases each year.)

The wind, however, cannot be counted upon to blow steady year-round, Wright said, and so is called an “intermittent resource.” As such, it must be “firmed up” by a more constant power source, such as the region's 31 hydropower plants.

Those dams, Wright said, fortunately have the flexibility to “respond to increased consumer needs for power in an instant,” making them a perfect fit with wind.

The trick, though, will be linking wind and water on BPA's 15,000-mile grid, and BPA's transmission group is now working to plug in the Klondike III project with a new 12-mile transmission line. That conduit will carry wind energy north to an existing BPA substation, Wright said, and the substation is being expanded to handle the increased load.

The system should be in place by year's end.

The entire Klondike II project produces 221 megawatts, and is the largest wind farm in Oregon. The field is located in Sherman County, adjacent to PPM's Klondike I and Klondike II wind plants.

Nationally, PPM produces nearly 2,000 megawatts of wind power, with sales primarily to wholesale customers under long-term contract.

This latest BPA contract expires in 20 years.